

What is claimed is:

1. A breathing air filtration device, including:

a concave-convex first filtering medium having a first rim at a proximal end thereof and defining a first opening surrounded by the first rim;

a concave-convex second filtering medium having a second rim at a proximal end thereof and defining a second opening surrounded by the second rim; and

a support structure including a first base member coupled integrally with respect to the first rim to support the first filtering medium, a second base member coupled integrally to the second rim to support the second filtering medium, and a connecting member coupled integrally to the first base member and the second base member and extended between the first and second base members;

wherein the base members of the support structure are positionable at the nasal cavity entrances, with the connecting member spanning the septum, to place each of the first and second filtering media in a working position in which the filtering medium projects distally into an associated one of the nasal cavities, whereby air entering each nasal cavity passes through the associated one of the first and second openings, and further passes through the associated one of the first and second filtering media.

2. The filtration device of claim 1 wherein:

each of filtering media, when in its working position, is spaced apart from the septum and the nasal wall defining the associated nasal cavity.

3. The device of claim 2 wherein:

each of the filtering media is structurally self supporting.

4. The device of claim 2 further including:

a first open frame extending distally from the first base member, and a second open frame extending distally from the second base member, wherein each of the open frames is disposed between its associated filtering medium and associated nasal wall when the associated filtering medium is in the working position.

5. The device of claim 4 wherein:

the first and second base members are formed of a first polymeric material, and the open frames are formed of a second polymeric material more rigid than the first polymeric material.

6. The device of claim 4 wherein:

each of the open frames is releasably coupled to its associated base member.

7. The device of claim 6 wherein:

each associated base member and frame cooperate to contain their associated filtering medium when releasably coupled.

8. The device of claim 1 wherein:

each of the filtering media has an ellipsoidal shape.

9. The device of claim 8 wherein:

the connecting member tends to maintain the first and second base members in a selected angular orientation relative to one another.

10. The device of claim 1 wherein:

each of the filtering media has a truncated-conical shape.

11. The device of claim 1 wherein:

the first and second filtering media are corrugated.

12. The device of claim 1 wherein:

each of the base members is generally annular and sized for correspondence with the rim of its associated filtering medium.

13. The device of claim 1 wherein:

the support structure further includes first and second tabs associated with the first and second base members, respectively, and extending in opposite directions away from the associated base members.

14. The device of claim 13 further including:

an adhesive applied to the first and second tabs, to facilitate a removable attachment of the tabs to opposite lateral nasal walls.

15. The device of claim 1 wherein:

each of the first and second filtering media over a convex surface thereof has a surface area at least 1.5 times its associated one of the first and second openings.

16. The device of claim 1 further including:

first and second screening components associated with the first and second filtering media, respectively, wherein each screening component is mounted with respect to its associated base member and disposed proximally of the associated filtering medium.

17. The device of claim 1 further including:

a third base member positionable against the face in surrounding relation to the mouth and defining an air flow opening coincident with the mouth, and a third filtering medium mounted to the third base member and disposed over the air flow opening.

18. The device of claim 17 wherein:

the third filtering medium is concave-convex and projects away from the mouth in the proximal direction.

19. The device of claim 17 further including:

a retainer for releasably maintaining the third base member against the face.

20. The device of claim 1 wherein:

the base members, when positioned at the entrances to the nasal cavities, tend to compliantly conform to the nasal surface.

21. A nasal air filtration device, including:

a first filter having an open first proximal end and a distal end, adapted for insertion into a nasal cavity;

a second filter having an open second proximal end and a distal end, adapted for insertion into a nasal cavity; and

a filter support structure including a first base member coupled with respect to the first proximal end and supporting the first filter, a second base member coupled with respect to the second proximal end and supporting the second filter, and a connecting member integrally coupled with respect to the first and second base members and extended between the base members;

wherein the base members of the filter support structure are positionable at the entrances to the nasal cavities, with the connecting member spanning the septum, to place each of the first and second filters in a working position in which the filter projects distally into an associated one of the nasal cavities, and is spaced apart from the nasal wall defining its associated nasal cavity to define a passage for accommodating air flow between the filter and the nasal wall.

22. The device of claim 21 wherein:

each of the filters is concave in the proximal direction, and convex in the distal direction.

23. The device of claim 22 wherein:

each of the filters has an ellipsoidal shape.

24. The device of claim 23 wherein:

the connecting member tends to maintain the first and second base members in a selected angular orientation relative to one another.

25. The device of claim 22 wherein:

each of the filters has a truncated-conical shape.

26. The device of claim 21 wherein:

each of the first and second filters is structurally self supporting.

27. The device of claim 21 wherein:

each of the filters is corrugated.

28. The device of claim 21 further including:

a first open frame extended distally from the first base member, and a second open frame extended distally from the second base member, wherein each of the open frames is disposed between its associated filter and the nasal wall in the working position.

29. The device of claim 28 wherein:

each of the first and second open frames is releasably coupled to its associated base member, and adapted to contain the associated filter when so coupled.

30. The device of claim 21 wherein:

each of the base members is generally annular, and has a size and shape corresponding to an entrance to its associated nasal cavity.

31. The device of claim 30 wherein:

the base members, when positioned at the entrances to the nasal cavities, tend to compliantly conform to the nasal surface.

32. The device of claim 21 wherein:

the support structure further includes first and second tabs associated with the first and second base members, respectively, and extended in opposite directions away from their associated base members.

33. The device of claim 32 further including:

an adhesive applied to the first and second tabs, to facilitate a releasable attachment of the tabs to a lateral exterior surface of the nasal wall.

34. The device of claim 21 further including:

a third base member adapted for positioning against the face in surrounding relation to the mouth, and defining an air flow opening coincident with the mouth, and a third filter mounted with respect to the third base member and disposed over the air flow opening.

35. The device of claim 34 further including:

a retainer for releasably maintaining the third base member in surface contact with the face.